ABSTRACT:

INTRODUCTION: Lung Carcinoma is the leading cause of cancer related deaths worldwide.They are classified broadly into small cell and non small cell carcinomas by updated WHO 2015 classification.Non small cell lung carcinomas are caused by many genetic alterations,of which EGFR mutation plays a key role.EGFR mutation is significant since it can be targeted by pharmacological inhibitors.This study was conducted at Coimbatore medical college Hospital to evaluate the EGFR mutation expression by Immunohistochemistry in non small cell lung carcinomas.

MATERIALS AND METHODS: This was a prospective study done for a period of one year.30 samples diagnosed as non small cell carcinomas favouring adenocarcinoma or squamous cell carcinoma,were studied for EGFR mutations by immunohistochemistry using monoclonal antibody.The staining intensity was graded based on a scoring system.They were then compared with those in the literature.

RESULTS: Out of 30 cases studied,Squamous cell carcinoma was the most common histological subtype(17 cases).There appears to be a significant correlation between males,higher age and squamous cell carcinoma histology.EGFR mutation expression do not have any association with age,sex and personal history of smoking.EGFR expression and histological subtype do not reveal any significant association in this study.But EGFR expression was found to be more common in adenocarcinomas.

CONCLUSION: This prospective study concludes that though there is no statistically significant association between EGFR expression and tumor histology,EGFR expression was found to be more common in adenocarcinomas.The staining intensity was 3+ in 17 cases,2+ in 5 cases.1+ in 6 cases,negative in 2 cases.Thus EGFR mutation analysis by Immunohistochemistry can be used as a guidance for targeted therapy in low resource settings where molecular studies are limited.

KEYWORDS:Non small cell carcinomas,EGFR mutation,Immunohistochemistry,squamous cell carcinomas,adenocarcinomas.